
Leucocoryne talinensis (Alliaceae), a New Species from Chile

Leví M. Mansur and Mauricio A. Cisternas

Facultad de Agronomía, Pontificia Universidad Católica de Valparaíso, Casilla 4-d, Quillota, V región, Chile. levi@entelchile.net

ABSTRACT. A new species from Chile, *Leucocoryne talinensis*, is described and illustrated. It is known from Talinay and Fray Jorge in Limarí Province, from roadsides and adjacent fields. Its chromosome number and relationship to the most closely related species are discussed.

RESUMEN. Se describe e ilustra una nueva especie de Chile, *Leucocoryne talinensis*, conocida de las localidades de Talinay y Fray Jorge (Provincia de Limarí, 30°S), donde crece a orillas de la carretera y en campos adyacentes. Se da a conocer su número cromosómico y se discute su relación con la especie más cercana.

Key words: Alliaceae, Chile, chromosome number, *Leucocoryne*.

The genus *Leucocoryne* Lindley (Alliaceae) is endemic to Chile and is comprised of about 15 to 20 taxa (Rahn, 1998). It grows from the Atacama desert in Region I of Tarapacá near the city of Iquique (20°S) in northern Chile (Pinto, 1999), to the humid Lake District Region X de Los Lagos of southern Chile (39°S) (Muñoz, 2000).

It appears that the center of diversity for the genus lies between the Regions of Coquimbo and Valparaíso, specifically between the cities of Valparaíso (33°S) to north of La Serena (29°S) from sea level to 2800 m a.s.l. In this area approximately 75% of the described species are found. In addition, this area has some taxonomically undescribed populations (Mansur, 2004; Zoellner, 1972).

The genus presents great morphological variability, shown especially in floral structure, which causes difficulties in its taxonomic classification (Mansur, 2004; Muñoz, 2000).

Leucocoryne talinensis L. Mansur & M. Cisternas, sp. nov. TYPE: Chile. Limarí: Talinay, cultivated at Quillota from material collected 17 Nov. 1997, along Highway 5, km 355, 30°49'S, 71°33'W, type prepared 10 Aug. 2000, *L. Mansur 1* (holotype, CONC; isotype, SI). Figure 1.

Ex affinitate *L. odoratae*, floribus magnis differt. Pedi-

celli inaequales, 1.3–3.7 cm longi; perianthium tubo cylindrico et basi globosa; tepala ovali-lanceolata ad apicem leviter acuminata, 10–16 mm longa et leviter reflexo-cochleariformia; staminodia patentia, luteola et cylindrica ad apicem obtusa 3.4–7 mm longa; ovarium tricarpelare, stylus brevis et persistens. Capsula oblonga et leviter rostrata.

Herbaceous scape 16–30 cm tall; bulbous geophyte, perennial; bulbs tunicate, with strong garlic odor, creamy-white, globular, 12–21 mm high, 11–19 mm diam. covered with grayish white cataphylls. Leaves 4 to 5, all basal, linear, slightly canaliculate, 12–18 × 1.2–2.5 cm. Spathes 2, membranous and dry at anthesis, 1.6–2.5 × 2.0–4.0 cm, with a prominent central vein and 8 secondary veins. Inflorescence a pseudo-umbel, with (3)4 to 8(9) white flowers; pedicels unequal, 1.3–3.7 cm long. Perianth with a cylindrical tube, dilated at the base, 6.9–11 × 2.0–4.5 mm, white, with 6 brown-violet veins running longitudinally; tepals 6 arranged in 2 series, ovate-lanceolate, acute, unequal, 3.7–8 × 10–16 mm, entire to erose, acute apex, with a greenish central vein; tepals slightly spatulate and reflexed; stamens 3, fertile; anthers sessile, 1.50–1.55 mm long, yellow, adnate to the tube of the perianth above the pistil; staminodes 3, patent, fleshy, broadly acute, 3.4–7.0 × 1.0–1.7 mm, creamy yellow, at the base of the interior tepals; tricarpellate ovary, with axial placentation; stigma capitate-papillate; style persistent and short with 3 septal nectaries at the base of the ovary. Capsule oblong, slightly rostrate, 9.5–14.8 × 4.0–4.8 mm; seeds black and small, 36.6 ± 1.1 mg 50⁻¹, crenulate, irregularly rounded and appendaged.

Habitat and distribution. The new species is known from Talinay, where it grows along Highway 5 and in adjacent fields with populations of *Leucocoryne purpurea* Gay at 250–300 m a.s.l., in alluvial, sandy-loam soils (Rodríguez, 1990). *Leucocoryne talinensis* is also occasionally found in the upper part of the Fray Jorge National Park in Chile. *Leucocoryne talinensis* was originally collected in 1997 and cultivated in Quillota, where the type collection was prepared in 2000.

The new species is exposed to damaging human activity, such as plantings of exotic *Atriplex* species,

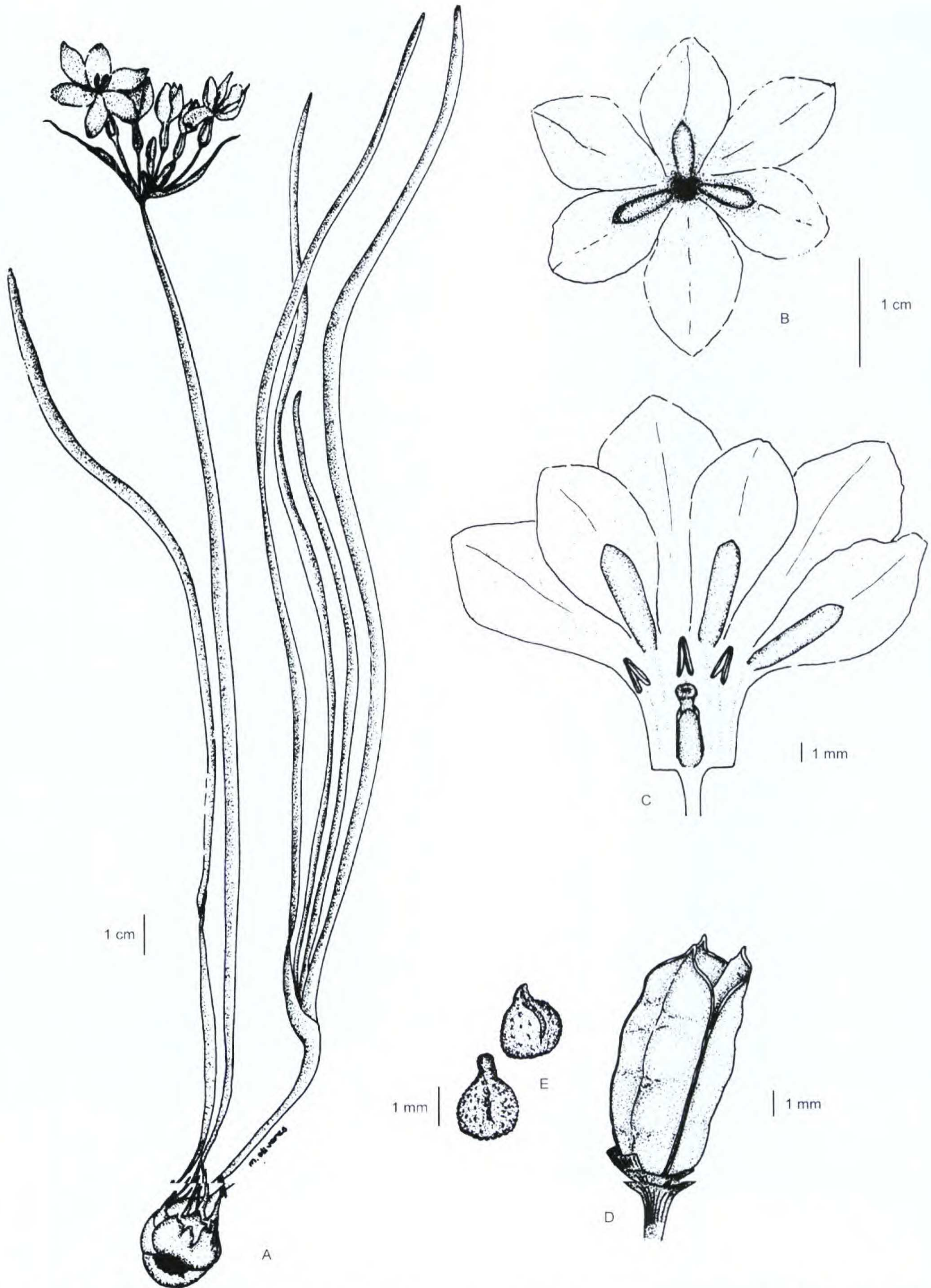


Figure 1. *Leucocoryne talinensis* L. Mansur & M. Cisternas. —A. Habit and inflorescence. —B. Flower. —C. Opened flower showing the stamens. —D. Capsule. —E. Seeds. Drawn from fresh material.

as well as grazing, especially by goats. Its conservation status may be considered vulnerable.

Etymology. The specific epithet refers to the geographic origin of the new species.

Leucocoryne talinensis presents phenotypic characteristics that are stable in regard to the color of its flowers and the cataphylls of the bulb. However, it is frequently possible to find individuals within

Talinay populations that vary in the form of the tepals, some having entire to erose tepals. This plant was referred to previously as *Leucocoryne* sp., "Talinay" (Araneda et al., 2004; Mansur et al., 2004), and as *L.* sp. ecotipo Talinay (de la Cuadra & Mansur, 2004). Its diploid chromosome number was determined to be $2n = 18$, with an idiogrammatic formula of 14 metacentric + 2 sub-telocentric + 2 telocentric (Araneda et al., 2004).

The new species is somewhat similar to *Leucocoryne odorata* Lindley. However, unlike *L. talinensis*, *L. odorata* has a chromosome count of $2n = 10$ (Crosa, 1988), filiform staminodes, an inflorescence with only 2 to 4 flowers, and tepals ovate with an acute apex. Its bulb is covered with brownish cataphylls versus grayish white in *L. talinensis*. Further, *L. odorata* is distributed south of 32°S in Chile, whereas *L. talinensis* is found only in the type locality in Talinay at 30°49'S.

Paratype. CHILE. **Coquimbo:** Limarí, Fray Jorge, 450 m, Sep. 1972, *E. Navas 132389* (CONC).

Acknowledgments. The authors are grateful to Rosa Guaglianone and Roberto Kiesling, Instituto de Botánica Darwinion, Argentina, for valuable comments and suggestions on the manuscript, and to Roberto Rodríguez, Departamento de Botánica, Universidad de Concepción, for providing herbarium material. We also thank Ms. Marlen Olivares for drawing the figures of *Leucocoryne talinensis* and

Mr. Luis Arriagada for assistance in the collection of specimens.

Literature Cited

- Araneda, L., P. Salas & L. Mansur. 2004. Chromosome numbers in the Chilean endemic genus *Leucocoryne* (Huilli). *J. Amer. Soc. Hort. Sci.* 129: 77–80.
- Crosa, O. 1988. Los cromosomas de nueve especies del género *Leucocoryne* Lindley (Allieae–Alliaceae). *Bol. Invest. N° 17*, Fac. Agron. Uruguay.
- de la Cuadra, C. & L. Mansur. 2004. Descripción de las primeras etapas del ciclo de vida de tres genotipos de *Leucocoryne* sp.: Semilla a bulbo. *Agric. Téc.* 64(2): 205–212.
- Mansur, L. 2004. Life cycle, self-incompatibility and genetic plasticity in the design and color of its flowers. Pp. 9–15 in *Leucocoryne*, a Chilean Native Genus and its Use as a Garden Plant, 1ª ed. Reimco, Viña del Mar, Chile.
- , M. Gonzalez, I. Rojas & P. Salas. 2004. Self-incompatibility in the Chilean endemic genus *Leucocoryne* Lindley. *J. Amer. Soc. Hort. Sci.* 129(6): 836–838.
- Muñoz, M. 2000. Consideraciones sobre los géneros endémicos de monocotiledóneas de Chile. *Bol. Mus. Nac. Hist. Nat.* 343: 16–27.
- Pinto, R. 1999. Oasis de Niebla. Una expedición botánica a los cerros costeros de Iquique durante "El Niño" 1997. Ograma, Chile.
- Rahn, K. 1998. Alliaceae, Pp. 70–78 in K. Kubitzki (editor), *Flowering Plants, III. Monocotyledons. Lilianae (except Orchidaceae)*. Springer-Verlag, Berlin.
- Rodríguez, M. 1990. *Geografía Agrícola de Chile*, 2ª ed. Ed. Universitaria, Santiago.
- Zoellner, O. 1972. El género *Leucocoryne*. *Anales Mus. Hist. Nat. Valparaíso* 5: 9–83.